$T_1 \cap T = \left\{P_1\left(a\,,\frac{b^2}{y_0}\left(1-\frac{x_0}{a}\right)\right)\right\}$ $\quad$ $T_2 \cap T = \left\{P_2\left(-a\,,\frac{b^2}{y_0}\left(1+\frac{x_0}{a}\right)\right)\right\}$

$\overrightarrow{A_1P_1}\begin{pmatrix}0\\ \frac{b^2}{y_0}\left(1-\frac{x_0}{a}\right)\end{pmatrix}$ $\quad$ $\overrightarrow{A_2P_2}\begin{pmatrix}0\\ \frac{b^2}{y_0}\left(1+\frac{x_0}{a}\right)\end{pmatrix}$

$$\overrightarrow{A_1P_1}\,.\,\overrightarrow{A_2P_2} = \frac{b^4}{y_0^2}\left(1-\frac{x_0^2}{a^2}\right) = \frac{b^4}{y_0^2}\left(\frac{y_0^2}{b^2}\right) = b^2$$

Exercice 29

$$(\mathcal{C}): \frac{\left(x-\frac{1}{2}\right)^2}{\frac{7}{8}} + \frac{\left(y+\frac{1}{2}\right)^2}{\frac{7}{4}} = 1$$

on pose $\begin{cases} X = x-\frac{1}{2} \\ Y = y+\frac{1}{2} \end{cases}$

$w\left(\frac{1}{2}\,,\frac{-1}{2}\right)$ $\quad$ *dans* $R' = (w,\vec{\imath},\vec{\jmath})$

$$(\mathcal{C}): \frac{X^2}{\frac{7}{8}} + \frac{Y^2}{\frac{7}{4}} = 1$$

$I(2\,,3)_R \longrightarrow I\left(\frac{3}{2}\,,\frac{7}{2}\right)_{R'}$

T: une tangente à (C) en $M_0(X_0\,,Y_0)_{R'}$

$$T: \frac{X\,X_0}{\frac{7}{8}} + \frac{Y\,Y_0}{\frac{7}{4}} = 1$$

$$T: 2\,X\,X_0 + Y\,Y_0 = \frac{7}{4}$$

$$I\left(\frac{3}{2}\,,\frac{7}{2}\right) \in T \implies \boxed{3X_0 + \frac{7}{2}Y_0 = \frac{7}{4}}$$

$$\frac{X_0^2}{\frac{7}{8}} + \frac{Y_0^2}{\frac{7}{4}} = 1 \quad \boxed{\implies 2\,X_0^2 + Y_0^2 = \frac{7}{4}}$$

déterminons les coordonnées de M_0

$\begin{cases} 3\,X_0 + \frac{7}{2}Y_0 = \frac{7}{4} \\ 2\,X_0^2 + Y_0^2 = \frac{7}{4} \end{cases}$ .....compléter les calculs...

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